ENGINEERING MAINTENANCE BRANCH BULLETIN

Issue # 004 **August 2005**

THIS MONTH'S BULLETIN CONTAINS:

This is the monthly bulletin to MSC ships and shoreside personnel. The purpose of the bulletin is to inform all concerned of current COMSC Preventive Maintenance management practices associated with any new or revised policy and procedures, along with helpful tips & tricks for improved maintenance. The bulletin will also discuss and present any upcoming initiatives in the various programs.

Some may remember "*The Vibe Monitor*", a newsletter that was run up until 2000 by DLI Engineering. To continue our efforts to bring you useful information, we're adding a new page to the newsletter, completely dedicated to the Vibration Monitoring System. This will have useful tips as well as past case histories.

Engineering Maintenance Branch Website – something old is new again!!

The Engineering Maintenance Branch web page has had a bit of a facelift; along with some helpful downloads (SAMM, PENG, EASy overviews, OAS Guide, past issues of our bulletin, etc.), the latest CMEO Class information and who to contact for questions or comments regarding Engineering. Maintenance. For helpful updates, check it out!
http://www.msc.navy.mil/n7/engmgmt/engmgmt.htm

WANTED… MORE PICTURES!!

It is said, "A Picture's worth a thousand words." Let's prove it right. If you have pictures of Shipboard Maintenance (Vibration Monitoring, Oil Sampling, machinery upkeep, etc.) being performed, please send them (along with a *brief* narrative as to what the picture is) to Norm Wolf (e-mail: Norman.wolf@navy.mil).

SAMM/Maintenance Tips

How do I Un-archive a repair? To unarchive a repair, you must first locate the repair.
1) Open the repair module, and click on the find button. Select the 'more' button, and check the box labeled 'archived'.
2) Click the button 'find now'-This will display all archived items in red colored font.
3) Locate the repair in question, and double click or select 'detail' button from the tool bar.
4) In the general tab, uncheck the box labeled 'Archived', click 'save' and close. The repair should now be visible in the default grid display.

-Tip provided by Seaworthy Systems Incorporated (SSI)

Maintenance Tip

Different coupling manufactures use different names for the gap between coupling hub faces. One may call it "hub separation", another "clearance between hub faces", another a "gap between flanges". Regardless of what it called it is the axial dimension or distance.

- Tip provided by the Reliability Center
http://www.reliability.comz

MSC I.S. PORTAL

Providing simplified access to the information you need.

(By Will Carroll, Sr. Mechanical Engineer)

MSC has initiated a project to simplify and streamline user access to information from the many data collection systems within the organization.

Single-sign-on

MSC has several data collection systems as part of its overall information systems architecture. The data from these systems by themselves do not provide sufficient information for decision makers. For example, in determining if a Ship's Automated Maintenance Management (SAMM) maintenance plan is effectively preventing or identifying equipment problems failure data is required. Currently, MSC's primary source of failure data on critical equipment is Typed Desk Readiness Management system (TRMS).

To begin the review, a list of equipment by frequency of failure from the TRMS system is required. After determining which critical equipment has the highest failure rate one would have to determine what is failing by looking up parts usage in SM (Supply Management system) and Machinery History in SAMM for the same equipment. After determining what is failing and determining a proposed method to prevent the failures one must submit a COSAL feedback in CLIP and/or a Maintenance feedback in SAMM. To complete this process a user must have three user IDs, three passwords and knowledge on navigating three different software systems. The MSC Information Systems (IS) portal project will simply access to the unclassified data from these systems by providing access to search for data from all three systems.

The MSC IS Portal project is currently testing a Single Sign-on methodology that uses Public Key Infrastructure (PKI) certificate information from the Common Access Cards (CACs) to identify users. This identification by the MSC IS Portal is passed to the other applications when a user wishes to access data from others systems behind the Portal such as PENG, SAMM, SNAPSHOT and CLIP.

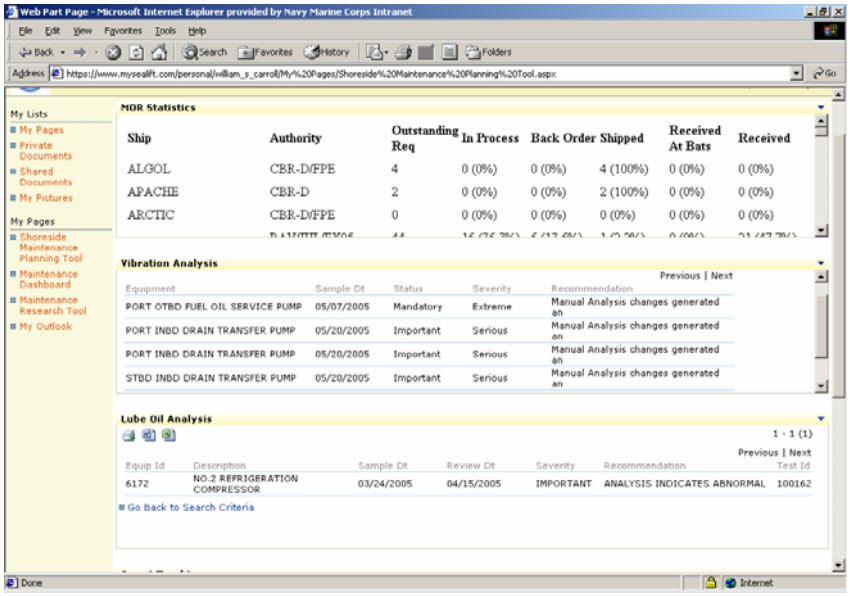
Application decomposition

The MSC IS Portal project is also testing the concept of allowing users to select those portions of a system that is required to for their role in specific business processes.

For example, if a user's only need from the SAMM system is to submit work requests and to review the maintenance schedule for Galley items that are planned for completion, then the MSC IS Portal project would decompose the SAMM system into search functions from the Repair and Workbook modules that would allow the users to define and save a personalized view of this data from the SAMM system.

Depending on the user's role he would have rights to submit a new work request or complete a maintenance action. These functions could be added to a personal page and mixed with function from CLIP or other MSC applications. An example of this feature in the Portal is shown in the picture below.

We are currently testing the concepts of single sign-on and application decomposition into services. Pending successful testing, the shoreside implementation will be completed in late 2007. The shipboard implementation will follow shortly thereafter. As we progress through the testing and implementation of the MSC IS Portal we will provide status updates. For further question please contact William.S.Carroll@navy.mil or 202-685-5742.



Question of the Month: Machinery History in SAMM.

(By Norm Wolf & Will Carroll)

What's the value of Machinery History? Who actually reads this stuff anyway?

We'll answer the second question first – WE ALL DO! The Engineering Maintenance Management (EMM) Systems Division looks through the Maintenance History quite frequently; this allows us to answer questions, improve maintenance and machinery reliability. Reviewing Machinery History is especially helpful when the ship is underway, or performing their mission and cannot be reached.

How does a detailed entry benefit the vessel's Engineers? There are three central purposes to why this information is so important. First and foremost is the Annual PM Reviews with the ABS Surveyors. Next, turnover for the relieving Engineer. Finally, shoreside review and research for changes/improvements to the Engineering Maintenance Practices. One good Machinery History can serve all three purposes.

The below screen shot is an example of what type of information to include in Machinery History. In the Narrative, the user included what was done, why it was done, and what was found. The user also attached pictures (shown as small icons at the bottom of the screen). The narrative (in combination with any attachments) allows the ABS Surveyor a clear idea of the before and after conditions of the repairs performed. This also allows the relief to know the events that led up to the repair.

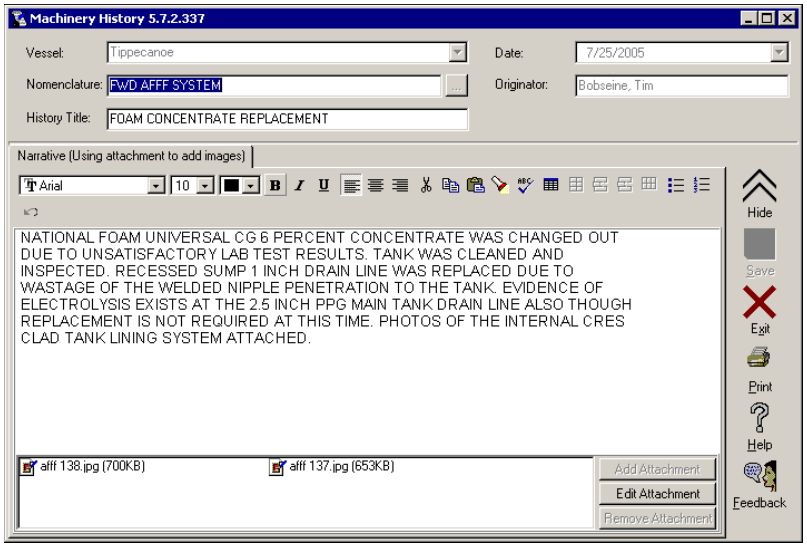
From a shoreside perspective, this Machinery History entry, along with a CASREP submitted for the AFFF, and a meeting with the MSC's Chemicals Technical Expert allowed us to formulate recommendations to change the maintenance in SAMM. This will help lessen the frequency of these failures, along with reducing the number of maintenance items performed by the Ship's Force.

Recommended Inclusions

Here are some recommendations to consider when documenting Machinery History:

- Narrative: Should include what was done, why it was done, and any/all condition-found data. Include CASREP number/DTG or TRANSALT number (if applicable).
- Attachments: They can be pictures, supporting documentation (technical reports, certifications, post-inspection reports, etc). These will help provide a more detailed picture of what problem was experienced. If they are larger than the SAMM limit, place it on your network in a specific folder and reference the location.
- Technical POCs: If a Manufacturer's Tech Rep was involved, include POC information.

For more information, or if you have any questions/comments, contact Will Carroll (William.s.carroll@navy.mil) or Norm Wolf (Norman.wolf@navy.mil).



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CMEO Training – What Are YOU Waiting For????

CMEO (**C**ivilian **M**arine **E**ngineering **O**fficer) is a two-week training course (held *quarterly*) at the Naval Supply Corps School in Athens, GA. It is for both shipboard and shoreside engineers. The Engineering Directorate (Code N7) of Military Sealift Command hosts the course and encourages ***ALL*** MSC Engineers (3rd A/Es through Chief Engineers, as well as Port Engineers and Project Engineers) to attend *(**Note:** MSC shipboard engineers are given priority when classes are full).*

CMEO provides training on an array of topics such as: SAMM (MALIN, Logbook, etc.), Vibration Monitoring, Lube Oil, Fuel Oil (NEURS), Chemicals (boiler treatment, sewage treatment, etc.), Supply (COSAL, ShipCLIP), Environmental, and Safety. SAMM is interactively taught using actual data and each module is discussed extensively.

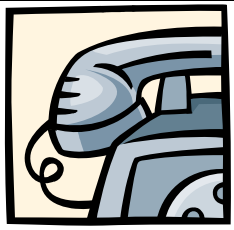
Upcoming CY '05 class dates:

- December 05-16, 2005

Upcoming CY '06 class dates:

- Jan 23-Feb 3, 2006
- April 17-28, 2006
- July 10-21, 2006
- December 04-15, 2006

For further information and to sign up, please go to the CMEO website (http://63.219.124.12/cmeoclasssignup/cmeo.htm), or contact Dave Greer (david.greer1@navy.mil) with any questions.



Hello? It's for YOU!

This is designed to help *YOU* by providing useful information. Feedback is *ESSENTIAL* to making this a helpful bulletin to all shipboard personnel in doing your job "smarter not harder". Please pass on any and all feedback from your Engine Department.

We do want this to be ***YOUR*** Maintenance Management Bulletin. What we don't want is to give you more junk mail. If there's a SAMM or Maintenance tip, topic, question, suggestion, or comment on how to make this useful, or something relating to Engineering Maintenance you think should get out to the ships, please pass it on. Send your submission to Randy Torfin (randel.torfin@navy.mil) *OR* Norm Wolf (norman.wolf@navy.mil).

COMING UP FOR NEXT MONTH!

Oil Analysis System (OAS) Process

Another SAMM/Maintenance Tip!

Another Question of the Month

Vibration Monitoring Tips & Information

N711 – Points of Contact:

Branch Chief – Randy Torfin, (202) 685-5744 (Randel.Torfin@navy.mil);

Sr. Mechanical Engineers – Will Carroll, (202) 685-5742 (William.S.Carroll@navy.mil) & Norm Wolf, (202) 685-5778 (norman.wolf@navy.mil);

Mechanical Engineers – Liem Nguyen, (202) 685-5969 (liem.nguyen@navy.mil) & Andrew Shaw, (202) 685-5721 (andrew.shaw@navy.mil);

Electrical Engineer – David Greer (202) 685-5738 (David.Greer1@navy.mil)

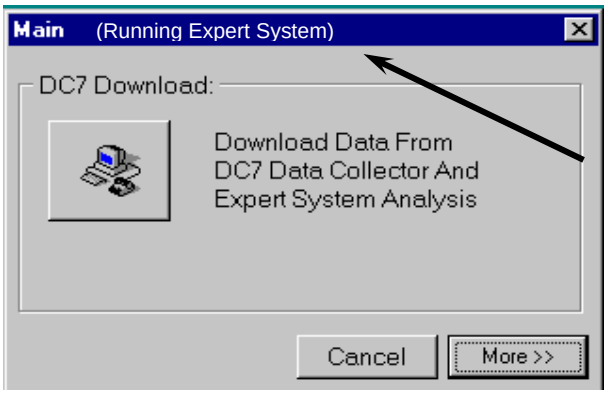
Tips for Expert System Processing of VMS Data

(Submitted by Mike Johnson, DLI Engineering, mjohnson@dliengineering.com)

When downloading vibration data to the host computer, SAMM provides a series of progress bars for the download and storage of the raw data. The last step is to process the data through the Expert Automated Diagnostic system (EADs). There are no progress bars for this step, only a prompt in the blue header on the popup window (See below).

It is easy to miss the prompt in the header and a common mistake is to press the Cancel button too early. The affect is that you will not get any automated diagnostics. To make matters worse the test will receive a priority of "No Recommendation" in the SAMM-CMS32 home screen, with the comment "NO VIBRATION EXPERT SYSTEM COMMENTS AVAILABLE FOR THIS TEST RESULT". If you utilize the Test Priority column in CMS to alert you to problems, you will not recognize that the tests were not analyzed by the Expert System.

To recover from this all you have to do is collect data on one machine and perform the download again. All machine tests that were previously downloaded will be run through the expert system. Be aware that expert system processing takes about 30 seconds per machine.



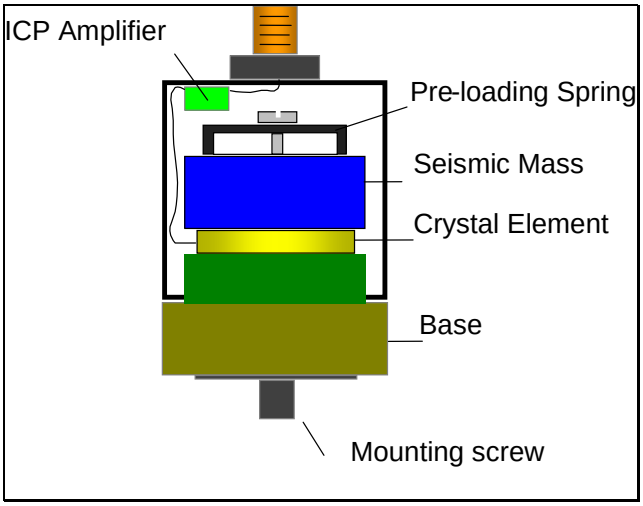
For more information, contact DLI Engineering at (206) 842-7656

Accelerometer Calibration – Why?

(Updated, from *The Vibe Monitor*, Jan. 1995)

Accelerometers are rugged, reliable transducers used for vibration measurements. As rugged as they are, it is a fact of life that components change characteristics over time and that transducers may be damaged during use. Unfortunately, a damaged transducer can result in inaccurate vibration signatures that may lead to erroneous conclusions regarding machinery condition.

Your accelerometers consist of a mass, a piezoelectric crystal, and an internal amplifier. Like fine china or a stereo system, an accelerometer can break if exposed to high shock. Anyone who has ever dropped a glass or turned their stereo up too loud can tell you the effects of high shock. The same effects apply to the piezoelectric crystal, internal amplifier, and the rest of the accelerometer.



Piezoelectric Accelerometer

To guard against these problems and assure data accuracy, accelerometers should be checked semi-annually for proper operation. SAMM schedules M-Code V002 as a reminder to perform this action. Calibration services are included, as part of your vibration program support package, and you should receive a newly recalibrated triax annually. It will either be shipped to you directly in which case you should ship back the old one, or it will be delivered during a scheduled support visit.